

AMENDMENTS TO THE CLAIMS

Claim 1. (Currently Amended)

A system of managing slack in fiber optic cables connected to a circuit board, comprising:

a¹ a first radius guide elevating a fiber optic cable received from one of a plurality of adaptors above a circuit board, said radius guide having a leading edge and a trailing edge which respectively provide two points of support for the fiber optic cable above the circuit board the leading edge and the trailing edge being arranged so that the fiber optic cable is positioned in substantially a linear direction from one of a plurality of adaptors to one of a plurality of connectors positioned on the circuit board.

Claim 2. (Currently Amended)

A slack managing system according to Claim 1, said first radius guide further comprising:

a central curved portion between said leading edge and said trailing edge, wherein a fiber optic cable supported by said first radius guide is supported by said leading edge, is bent over said curved portion, and is supported by said trailing edge.

Claim 3. (Currently Amended)

A slack managing system according to Claim 2, further comprising at least a first retaining notch formed on said leading edge and at least a second retaining notch formed on said trailing edge, said first and second retaining notches adapted to receive the fiber optic cable and provide said two points of support for the fiber optic cable.

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Claim 4. (Original)

A slack managing system according to Claim 1, further comprising at least one foot on a bottom surface of said first radius guide attachable to the circuit board.

Claim 5. (Original)

A slack managing system according to Claim 3, further comprising a second radius guide similar to said first radius guide, spaced apart from said first radius guide.

Claim 6. (Currently Amended)

A slack managing system according to Claim 3, further comprising a retaining cross arm formed over at least one of said retaining notches, wherein when a fiber optic cable is a shorter fiber optic cable, the fiber optic cable contacts an underside of said retaining cross arm, and when a fiber optic cable

is a longer fiber optic cable, the fiber optic cable contacts respective lower edges of said retaining notches.

Claim 7. (Currently Amended)

A slack managing system according to Claim 2, wherein a radius of said central curved portion is approximately a ~~the~~ minimum bend radius of the fiber optic cable being supported.

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Claim 8. (Original)

A slack managing system according to Claim 5, further comprising retaining cross arms respectively formed over said retaining notches, wherein when a cable is a shorter cable, the cable contacts respective undersides of said retaining cross arms, and when a cable is a longer cable, the cable contacts respective lower edges of said retaining notches.

Claim 9. (Original)

A slack managing system according to Claim 5, further comprising elevating clips to elevate the cable above the circuit board in front of said leading edge of said first radius guide.

Claim 10. (Currently Amended)

A slack managing system according to Claim 3, said first radius guide further comprising a plurality of first retaining notches formed in said leading edge and a corresponding plurality of second retaining notches formed in said trailing edge to accommodate a plurality of fiber optic cables.

Claim 11. (Currently Amended)

a¹ A slack managing system according to Claim 5, said first and second radius guides each further comprising a plurality of first retaining notches formed in said respective leading edges and a corresponding plurality of second retaining notches formed in said respective trailing edges to accommodate a plurality of fiber optic cables.

Claim 12. (Currently Amended)

A slack managing system according to Claim 5, further comprising a tensioning assembly contacting the fiber optic cable at a point between said first and second radius guides providing tension to the fiber optic cable.

Claim 13. (Currently Amended)

A slack managing system according to Claim 12, said tensioning assembly comprising a leaf spring which is biasable against the fiber optic cable.

Claim 14. (Original)

A slack managing system according to Claim 13, said tensioning assembly being attachable to one of said radius guides.

Claim 15. (Currently Amended)

A slack managing system according to Claim 11, further comprising a tensioning assembly contacting the fiber optic cables each at a point between said first and second radius guides providing tension to the fiber optic cables.

Claim 16. (Currently Amended)

A slack managing system according to Claim 15, said tensioning assembly comprising a plurality of leaf springs which are each biasable against respective fiber optic cables.

Claim 17. (Original)

A slack managing system according to Claim 16, said tensioning assembly being attachable to one of said radius guides.

Claim 18. (Original)

A slack managing system according to Claim 16, said tensioning assembly being attachable to the circuit board above one of said radius guides.

Claim 19. (Original)

A slack managing system according to Claim 1, wherein said first radius guide is disposed on the circuit board so that said leading edge is disposed closer to a front side of the circuit board and said trailing edge is disposed closer to the rear side of the circuit board.

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Claim 20. (Original)

A slack managing system according to Claim 5, wherein said first and second radius guides are disposed on the circuit board so that said leading edges are disposed closer to a front side of the circuit board and said trailing edges are disposed closer to the rear side of the circuit board.

Claim 21. (Original)

A slack managing system according to Claim 1, wherein said radius guide is adapted to accommodate multi-fiber ribbon cable.

Claim 22. (Currently Amended)

A method of managing slack in a fiber optic cable connected to a circuit board, comprising the steps of:

raising the fiber optic cable off of the circuit board surface using at least one elevated clip and at least one radius guide; and

providing at least two points of support on said radius guide at a leading edge and a trailing edge of the radius guide located above the circuit board surface which can accommodate varying lengths of fiber optic cable under varying slack conditions.

Claim 23. (Currently Amended)

a! A method of slack management according to Claim 22, further comprising the step of:

bending the fiber optic cable between the at least two points of support above the circuit board around a the radius guide.

Claim 24. (Currently Amended)

A method of slack management according to Claim 23, further comprising the step of dimensioning the radius guide to approximately a minimum bend radius of the fiber optic cable.

Claim 25. (Currently Amended)

A method of slack management according to Claim 23, further comprising the step of:

twisting the fiber optic cable about an axis of the fiber optic cable in a location on the fiber optic cable different from where the fiber optic cable is bent in said bending step.

Claim 26. (Currently Amended)

A method of slack management according to Claim 23, further comprising the step of:

providing at least two radius guides spaced apart around which the fiber optic cable may be bent.

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Claim 27. (Currently Amended)

A method of slack management according to Claim 26, further comprising the steps of:

keeping taut a fiber optic shorter cable between the two radius guides;
and

keeping slightly slack a longer fiber optic cable between the two radius guides.

Claim 28. (Currently Amended)

A method of slack management according to Claim 27, further comprising the step of:

applying tension to the fiber optic cable between the two radius guides.

Claim 29. (Canceled)

Claim 30. (Currently Amended)

A method of slack management according to Claim ~~29~~ 23, further comprising the step of:

providing at least two radius guides spaced apart around which the fiber optic cable may be bent, the two radius guides each having two points of support for a total of four points of support for the fiber optic cable.

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Claim 31. (Currently Amended)

A method of slack management according to Claim 30, further comprising the steps of:

keeping taut a shorter fiber optic cable between the two radius guides;
and

keeping slightly slack a longer fiber optic cable between the two radius guides.

Claim 32. (Original)

A method of slack management according to Claim 22, further comprising the step of:

providing multiple pairs of points of support above the circuit board to accommodate multiple fiber optic cables.

Claim 33. (Currently Amended)

A method of managing slack in fiber optic cables connected to a circuit board, comprising the steps of:

supporting the fiber optic cables a vertical distance above the circuit board each with a plurality of points of support positioned between an adaptor and a connector which are attached to the circuit board;

21 tensioning the fiber optic cables between at least two of the points of support so that fiber optic cables of differing lengths are all relatively taut over at least a portion of the lengths of the fiber optic cables.

Claim 34. (Currently Amended)

A method of slack management according to Claim 33, further comprising the steps of:

bending the fiber optic cables between the at least two points of support above the circuit board around a radius guide; and

twisting the fiber optic cables about respective axes of the fiber optic cables in locations on the fiber optic cables different from where the cables are bent in said bending step.

Claim 35. (Currently Amended)

A method of managing slack in a fiber optic cable connected to a circuit board, comprising the steps of:

displacing the fiber optic cable away from the circuit board surface using at least one elevated clip and at least one radius guide positioned between an adaptor and a connector to which the fiber optic cable is connected; and providing at least one point of support away from the circuit board surface which can accommodate varying lengths of fiber optic cable under varying slack conditions, the at least one point of support being one of the leading edge or trailing edge of the radius guide.

a! Claim 36. (Currently Amended)

A method of managing slack in a fiber optic cable connected to a circuit board according to Claim 35, said displacing step further comprising the step of displacing the fiber optic cable in a direction normal to the circuit board surface, and said providing step further comprising the step of providing at least two points of support away from the circuit board surface.

Claim 37. (Currently Amended)

A method of slack management according to Claim 36, further comprising the step of:

bending the fiber optic cable about an axis parallel to the circuit board around a radius guide.

Claim 38. (Currently Amended)

A method of managing slack in a fiber optic cable connected to a circuit board at two points, comprising the steps of:

supporting the fiber optic cable a distance away from the circuit board at a minimum of one point of support between and ~~not colinear with~~ differing from the two points at which the fiber optic cable is connected to the circuit board same as claim 39.

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Claim 39. (Currently Amended)

A system of managing slack in fiber optic cables connected to a circuit board, comprising:

means for supporting a fiber optic cable a distance away from the circuit board at a minimum of one point of support between and ~~not colinear with~~ differing from the two points at which the fiber optic cable is connected to the circuit board, wherein said supporting means comprises at least one elevating clip to displace the fiber optic cable away from the circuit board and a first radius guide elevating a fiber optic cable above a circuit board, said radius guide having a leading edge and a trailing edge which respectively provide two points of support for the fiber optic cable above the circuit board.

Claim 40. (Canceled)

Claim 41. (Canceled)

Claim 42. (Currently Amended)

A slack management system according to Claim 39, further comprising means for twisting the fiber optic cable about the fiber optic cable's long axis.

Claim 43. (Currently Amended)

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A slack management system according to Claim 42, said twisting means twisting the fiber optic cable at a point other than said at least one point of support away from the circuit board.

Claim 44. (Currently Amended)

A method according to Claim 38, further comprising the step of tensioning the fiber optic cable so that fiber optic cables of differing lengths are all relatively taut over at least a portion of the lengths of the fiber optic cables.

Claim 45. (Currently Amended)

A method of managing slack in a fiber optic cable connected to a circuit board at two points comprising the step of twisting the fiber optic cable about a long axis of the fiber optic cable a predetermined angle over a predetermined length of fiber optic cable between the two points at which the fiber optic cable is connected to the circuit board providing at least one retaining clip attached

to the circuit board through which the fiber optic cable passes a distance away from the circuit board at a point between and differing from the two points at which the fiber optic cable is connected to the circuit board,
wherein said twisting step occurs at least partially at the retaining clip.

Claim 46. (Canceled).

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Claim 47. (Currently Amended)

A slack managing method according to Claim 45, further comprising the step of:

providing at least two retaining clips attached to the circuit board through which the fiber optic cable passes a distance away from the circuit board at two points between and ~~not colinear with~~ differing from the two points at which the fiber optic cable is connected to the circuit board,
wherein said twisting step occurs at least partially between the retaining clips.

Claim 48. (Currently Amended)

A slack managing method according to Claim 45, further comprising the step of:

preventing the fiber optic cable from being twisted at any portion of the fiber optic cable other than the predetermined length of fiber optic cable.